

## 1st Semester (Code-101 Computer Fundamentals & Programming in 'C')

### Unit-1

Introduction: introduction to Computers, Characteristics, Evolution, Capabilities and limitations, Generations, Types of Computer: micro, miniframe, super, Basic Components of Computer System: Input unit, Output unit, Arithmetic Logic Unit, Control Unit, Central Processing unit, Instruction set, registers, Processors: Types, speed, Memory: main memory organization, capacity, RAM, ROM, EPROM, PROM, Cache memory, Pcs specification.

### Unit-2

I/O & Storage Devices: Keyboard, Pointing Devices: Mouse, Touch Screens, Joysticks, Electronic Pen, Trackball, Scanning Devices: Optical Scanners, OMR, Bar Code Readers, MICR, digitizer, Electronic Card Reader, Image Capturing Devices: Digital cameras, Output Devices: Monitor-CRT, TFT, LCD, LED, Printers-Dot Matrix, Inkjet, Laser, Plotters-drum, Flatbed, Screen Image Projector, Secondary Storage Devices: magnetic disks-Internal Hard Disk, External Hard Drives, Floppy disks, Optical Disks-CD, VCD, CD-R, CD-RW, DVD, Solid State Storage: Flash Memory, USB Drives.

### Unit-3

Introductory Concepts of 'C' Language-Introduction, History, Program Development Stages, 'C' Fundamentals-Character Set, Identifiers and Keywords, Tokens, Data Types, Constants, Variables, Operators, Separators, Declarations, Expressions, Statements, Symbolic Constants. Control Statements-Program Constructs: Sequence, Selection, Iteration, if, switch, break, continue, for, while, do while.

### Unit-4

Functions: A Brief Overview, Defining a function, accessing a function, function prototypes, passing arguments to a function, recursion.

Arrays: Declaration, Initialization, processing an array-traversal, searching, sorting, merging, insertion, deletion, passing arrays to functions, multidimensional arrays and strings.

Pointers: pointer declarations, pointer arithmetic, passing pointer to the functions, pointers and one dimensional array, Operations on pointers, arrays of pointers, dynamic memory allocation.

Data files: Opening and Closing a data file, Creating data file, processing a data file, Unformatted data files, Binary data files.



## 1st Semester (Code-102 Digital Electronics)

### Unit-1

Boolean Algebra and Logic Gates Introduction to Boolean Algebra, Laws of Boolean Algebra simplification of Boolean Functions, POS and SOP notations, Canonical Logic forms, Logic Gates, Universal Logic Gates, K-Maps (Two and Three Variables), Method.

### Unit-2

Combinational Circuits: Half-Adder, Full Adder, Sub tractors, Code Converter (BCD-to-excess 3), 4-bit Magnitude Comparator, Encoder, Decoder, Multiplexer, De-multiplexer, Design of combination circuits.

### Unit-3

Combinational Circuits: Latches and flip-flops (RS, D, JK, T & Master-Slave), Analysis of clocked sequential circuits, synchronous and asynchronous sequential logic, counters, Registers and Shift registers.

### Unit-4

Fundamentals of Semiconductor Physics: Energy bands in solids-pn-junctions diode depletion region, forward and reverse bias, diode as switch, Bipolar Junction Transistor, transistor configurations, bipolar junction transistor (CE configuration) as switch, Saturated and non-saturated logic, Integrated Circuits, characteristics of digital logic families-TTL, ECL, CMOS.



## 1st Semester(Code-103 Business Organization)

### Unit-1

Business-Meaning and contents,Business as a system,Business and Legal and Economics Environmental, Forms of Business Organization(meaning,merits & demerits) .

### Unit-2

Management-Management Principles, Henry Fayol's principals of management, Taylor's Scientific Management, Management Process, Basics Functions(in short), Meaning, Nature and process, Role of Manager .

### Unit-3

Organizational Behavior-Need of Understanding human behavior in organizations, Challenges and opportunities for OB, Managing Personnel-HRM-Meaning and functions, Man Power Planning, Job Analysis and Design, Training, Career Planning & Development, Motivation, Compensation Management Managing Finance-Concept of fixed and working Capital, Main Sources of Finance, Accounting Meaning, Users, Budgeting-Meaning, Type of Budgets .

### Unit-4

Managing Production-Basics Concepts, Objectives, Elements of Productions, Planning and Control Managing Sales and Marketing-Basics Concepts of marketing, Sales promotions (including Salesmanship) .



## 1st Semester (Code-104 Elementary Mathematics)

### Unit-1

Set theory, quadratic equations, sequence & series, binomial theorems, exponential and logarithms series, determinants, matrices, vector algebra.

### Unit-2

Rectangular co-ordinates, length of a line segment, section ratio, area of a triangle, equations of a straight line circles, conic section, parabola, ellipse and hyperbola.

### Unit-3

Trigonometric functions, trigonometrical ratios of negative and associated angles, trigonometrical ratios of compound angles, multiple angles.

Conditional identities involving the angles of a triangle, General solutions of trigonometrical equations.

Trigonometrical identities, properties of triangle, Heights and distances.

### Unit-4

Functions, Limits and continuity, Derivates of functions, Maxima & Minima, Infinite integrals and definite integrals, Solution of ordinary differential equation of 1st order and 1st degree.



## 1st Semester (Code-105 Communication Skills)

### Unit-1

Grammar and Reading Skills, Skills of effective reading, reader related material memory and retention, Parts of speech, writing correctly transformation of sentences, incorrect to correct English, tenses and replacing single word for group of words.

### Unit-2

Skills in writing-letters, official/business correspondence CV's Tech, Report/types, Precis, comprehension, Paragraph writing (200 word) on current topics, writing notices, agenda, circulars.

### Unit-3

Secretarial Skills-Effective Communication, listening and feedback skills telephone handling, Attending meeting, preparing of agenda, writing of minutes, summaries, handling problem situations. Control of voice and proper use of phonetics.

### Unit-4

Presentation and discussion-Types of communication, Barriers to communication, Effective use of kinesics, planning interviews and making presentations. Taking initiatives-especially in group discussions overcoming nervousness, making audience analyses and establishing leadership.